

Listing of Claims

- 1-9. (Cancelled)
10. (Previously presented) A carbon black, characterized by:
- (i) being coated at least in part by a layer of aluminum oxide and/or hydroxide;
 - (ii) having a specific BET surface area of between 30 and 400 m²/g;
 - (iii) having an average particle size (by mass), d_w , of between 20 and 400 nm; and
 - (iv) having an ultrasound disagglomeration rate, α , greater than $1 \times 10^{-3} \mu\text{m}^{-1}/\text{s}$.
11. (Original) The carbon black of Claim 10, wherein the disagglomeration rate α is greater than $1.5 \times 10^{-3} \mu\text{m}^{-1}/\text{s}$.
12. (Original) The carbon black of Claims 10 or 11, wherein the black has an amount of surface aluminum greater than 0.5% (% by mass).
13. (Original) The carbon black of Claim 12, wherein the amount of surface aluminum is between 0.5% and 5%.
14. (Original) The carbon black of Claim 13, wherein the amount of surface aluminum is between 0.5% and 3%.
15. (Currently amended) A process for producing the a-reinforcing carbon black of claim 10 comprising
for tires, the carbon black having the following characteristics:

- ~~(i) — it is coated at least in part by a layer of aluminum oxide and/or hydroxide;~~
- ~~(ii) — its specific BET surface area is between 30 and 400 m²/g;~~
- ~~(iii) — its average particle size (by mass), d_w , is between 20 and 400 nm;~~
- ~~(iv) — its ultrasound disagglomeration rate, α , is greater than $1 \times 10^{-3} \mu\text{m}^{-1}/\text{s}$;~~

~~wherein said rate is measured via an ultrasound disagglomeration test of 10% power of a 600 watt ultrasonic probe;~~

~~the process comprising~~

- a) impregnating a starting tire-grade carbon black with a colloidal suspension formed by hydrolysis of a solution of aluminum alkoxide in an alcoholic solvent;
- b) removing the alcoholic solvent by evaporation; and
- c) heat-treating the black thus impregnated so as to transform the aluminous layer present at its surface into an adhering layer of aluminum oxide and/or hydroxide.

16. (Original) The process of Claim 15, wherein the starting carbon black is a reinforcing carbon black selected from the series 100, 200 or 300 (ASTM grades).

17. (Original) The process of Claim 15, wherein the aluminum alkoxide is an alkoxide comprising 1 to 6 carbon atoms.

18. (Original) The process of Claim 17, wherein the aluminum alkoxide is selected from the group consisting of aluminum methoxide, aluminum ethoxide, aluminum (iso)propoxide, aluminum butoxides and mixtures thereof.

19. (Original) The process of Claim 15, wherein the alcoholic solvent is selected from the group consisting of methanol, ethanol, (iso)propanol, the various isomers of butanol, and mixtures thereof.

20. (Original) The process of Claim 15, wherein the colloidal suspension comprises nitric acid.

21. (Original) The process of Claim 15, wherein the heat treating is carried out at a temperature of between 100 and 900°C.

22. (Previously presented) A process for reinforcing a diene rubber composition, comprising incorporating into the composition a carbon black of Claim 10.

23. (Previously presented) The process of Claim 22, wherein the carbon black is incorporated in the composition by mixing in an internal mixer.

24. (Previously presented) The process of Claim 22 further comprising subsequently curing the composition by vulcanization.